2 Sheets--Sheet 1.

A. F. BATCHELLER.

Corn-Cultivator.

No. 164,960. Patented June 29, 1875.

Fig. 1

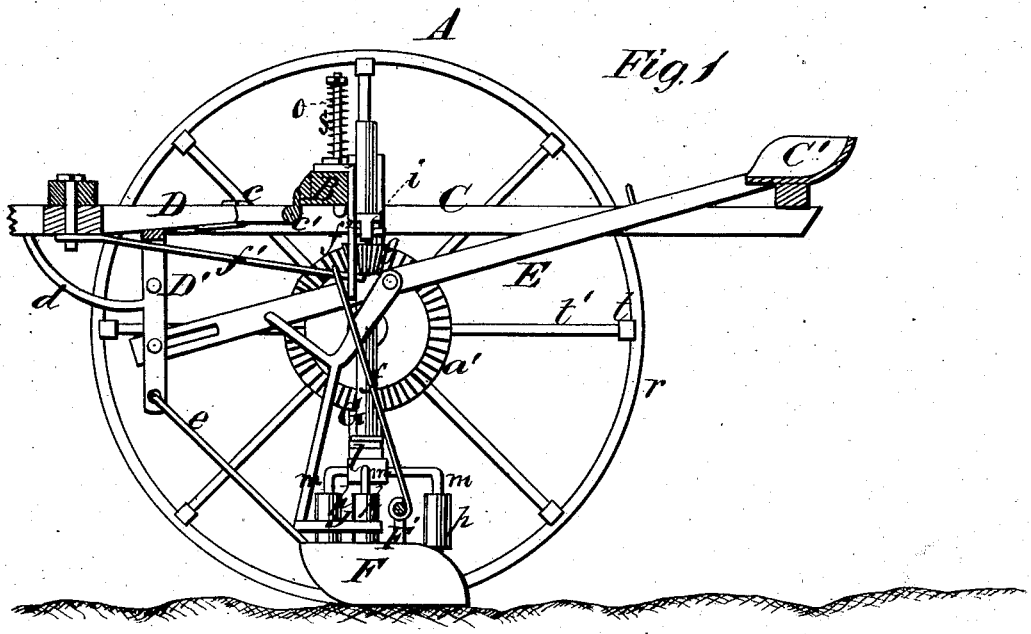


Fig. 2

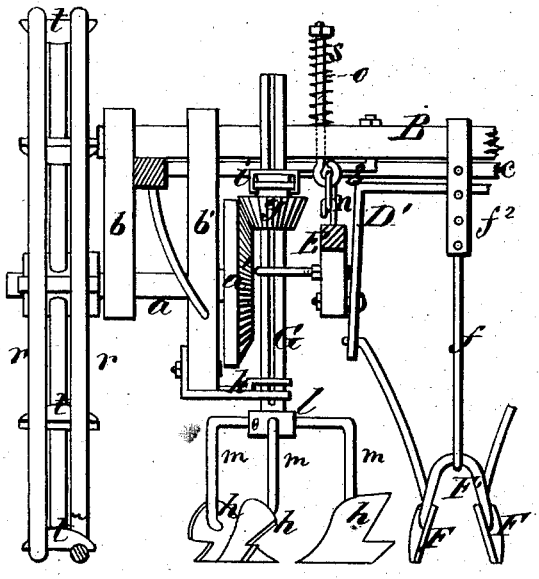
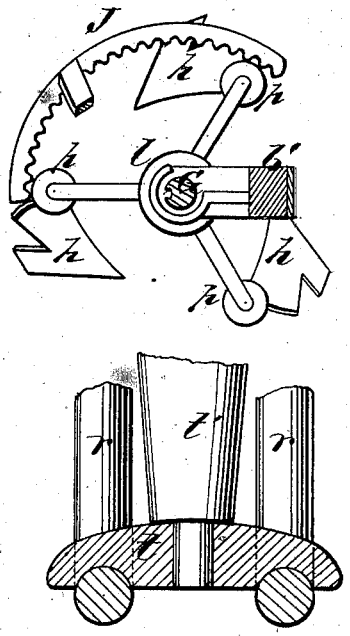


Fig. 3



WITNESSES

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2 Sheets--Sheet 2.

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Fig. 4.

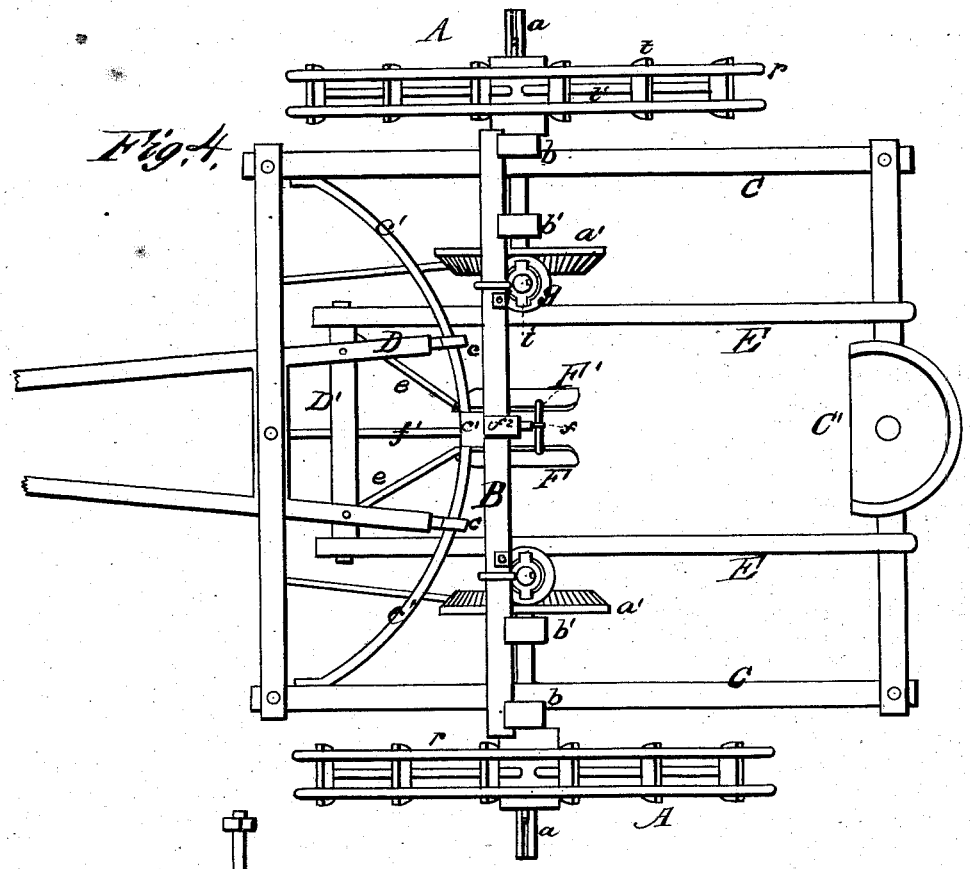
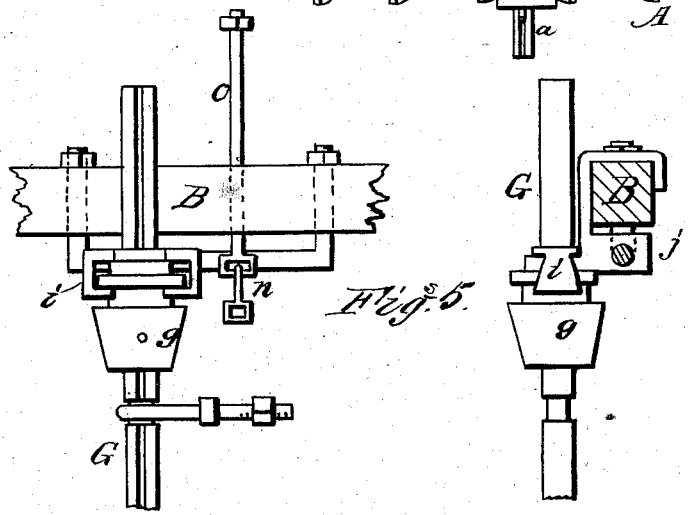


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALEXANDER F. BATCHELLER, OF CEDAR FALLS, IOWA.

IMPROVEMENT IN CORN-CULTIVATORS.

Specification forming part of Letters Patent No. **164,960**, dated June 29, 1875; application filed April 24, 1875.

To all whom it may concern:

Be it known that I, ALEXANDER F. BATCHELLER, of Cedar Falls, in the county of Black Hawk and State of Iowa, have invented a new and valuable Improvement in Corn-Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my cultivator; and Figs. 2 and 3 are detail views of the same. Fig. 4 is a plan view, and Fig. 5 detail view.

The object of my invention is to improve the corn-cultivator for which Letters Patent of the United States were granted to me on the 17th day of October, 1874, as follows:

In the annexed drawings, A A designate two driving and transporting wheels, which are fast on short axles *a a*, which axles turn in the vertical portions *b b'* of an arched axle, B, and have large beveled spur-wheels *a' a'* on their inner ends. C designates a rectangular frame, which extends forward and in rear of the axle. Upon the rear cross-bar of frame C a driver's seat, C', is pivoted, and to the front cross-bar the rear bifurcated portions D of a draft-pole are pivoted, so that the draft-pole can be moved to the right or left hand. The rear extremities of the bifurcated portions D are connected by loops *c c* to a guide-rod, *c'*, which is secured by its ends to frame C, and which is concentric to the pivot of the draft-pole. D' designates a rectangular frame, which is rigidly secured to the bifurcated portion D, and to the vertical portions of which frame the front ends of two handles, E E, are pivoted, so that they can be adjusted both vertically and longitudinally, as circumstances require. Frame D' is sustained against backward strain by means of brace-rods *d d*, and to the lower extremities of this frame rods *e* are pivoted, which rods are attached to two blades, F, designed for protecting young plants from injury by clods of earth being thrown on them. Blades F are connected together by an arch, F', to which a suspension-rod, *f*, is attached. Rod *f* is hooked upon a longitudinal brace, f^1, which is fastened to the pivot of the draft-pole in front, and passed through one of a number of holes in a pendant, f^2, fastened to the axle B. The rod *f* allows the blades F to rise and descend, and accommodate themselves to inequalities of surface passed over. The wheels *a' a'* engage with pinions *g g*, which are applied on vertical spindles G G, carrying on their lower ends plows *h*. Wheels *g* are connected to their spindles by feathers and grooves, which allow the spindles to be raised or lowered while they are rotating. The wheels *g* have annular hubs on them, which are embraced by yokes *i* that rest on arms *j*, through which the spindles G pass freely. The arms *j* are free to slide laterally on long staples 2, fastened to the under side of the axle B, and sustained by means of yokes 3, which are also adjustable with the arms. The lower ends of the spindle pass through guides *k* fastened to the lower ends of the vertical portions *b'* of the axle B. Shafts *a a* are secured by keys or other means to their wheels A A, by loosening which keys the axles are endwise adjustable. By these means the two sets of plows *h* can be adjusted nearer to or farther from each other, as may be required. The plows or shovels *h* are secured to arms, which are rigidly fastened to hubs *l*, which latter are adjustably secured to the lower ends of the spindles G. The drawing represents three plows attached to each spindle, but a greater or less number may be employed. The handles E E extend back as far as the driver's seat, and are suspended from the axle B by means of links *n*, which are attached to rods *o* that pass vertically through the axle, and have heads on their upper ends, between which and the axle springs *s* are applied. The springs *s* sustain the handles, and allow them to be depressed for lowering the spindles, to which they are connected by means of arms having eyes on them receiving annular grooved portions of the spindles. By these means the driver can raise or lower the plows from his seat C'. The vertical portions of the arms *m*, to which the plows *h* are secured have rollers *p* on them, which are designed for clearing the plows of anything which accumulates on them. This is done by means of toothed segments J, which are secured to arms depending from the han-

dles E, and which are so arranged that when the plows are raised high enough the segments J will give rapid rotation to the rollers or clearers *p*. The wheels A A are made with wire rims *r* secured at a suitable distance apart to T-heads *t* on the ends of the spokes *t'*. I thus make very light wheels, which are strong and substantial, and which will not slip or drag, owing to the broad portions *t*.

What I claim as new, and desire to secure by Letters Patent, is—

1. Longitudinally-adjustable axles *a*, in combination with laterally and vertically adjustable spindles G hung from the axle B, substantially as described.

2. Handles E, adjustably pivoted to frame D', and connected to the spindles G, in combination with the suspension-links *u*, rods *o*, and spring *s*, substantially as described.

3. In combination with the revolving plows *h*, the rolling-clearers *p*, and the segment-rack J, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALEXANDER FRELAND BATCHELLER.

Witnesses:
JOHN RIEHL,
A. R. BEGUN.